EXHIBIT 1

CONFIDENTIAL TREATMENT REQUESTED

FACEBOOK, INC.

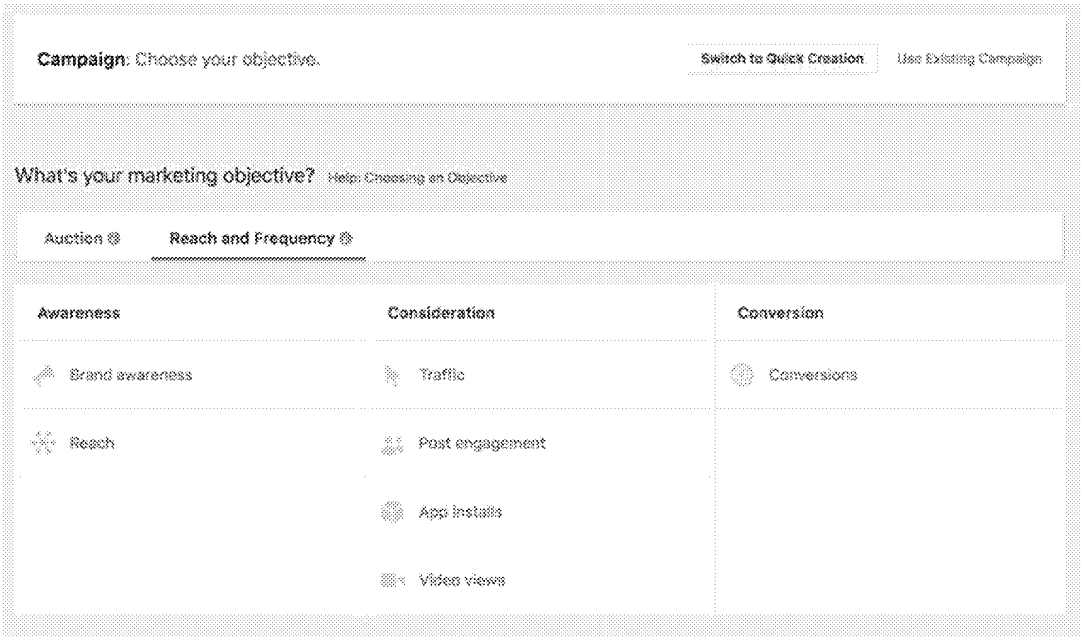
Response to the August 27, 2019 Civil Investigative Demand Issued by the United States Federal Trade Commission

November 25, 2019

Responses to Specifications 5, 7, 18, 33(f), and 34.

HIGHLY CONFIDENTIAL BUSINESS INFORMATION ENCLOSED

Figure 2: Reach and Frequency Campaign Objectives



RESPONSE TO SPECIFICATION 5(d)

Facebook constantly aims to improve its ads personalization and targeting process in order to provide users with the highest quality, most relevant content and to maximize return on investment for its advertisers. As part of that overarching aim, Facebook offers a variety of criteria that allow advertisers to reach their target audiences. When placing an advertisement on Facebook, as a first step, advertisers typically specify a desired marketing objective—e.g., promoting the advertiser's Facebook Page and posts, connecting people with the advertiser's business on Facebook, sending people to the advertiser's own website, installing the advertiser's app, and raising attendance at a specific event. The type of outcome they seek to drive through advertising may influence the type of targeting they use. An advertiser can also select a target audience for its advertisement based on various factors from different sources. Based on the criteria selected by the advertisers, Facebook's system targets each ad in the most efficient and effective way to maximize advertiser value and user utility. This is explained in further detail below.

A variety of tools in Ads Manager are available to assist an advertiser in choosing an audience, including "Custom Audiences" and "Lookalike Audiences."

a. **Custom Audiences**: In 2012, Facebook launched "Custom Audiences", a tool that allows businesses to target advertising to their existing customers or potential customers on Facebook. Currently, an advertiser can create a Custom Audience in three different ways.

    1. **Customer information**: An advertiser may choose to provide Facebook with hashed customer information data, consisting of contact lists, email identifiers or other identifiers that the advertiser has previously obtained through its own customer relationships. Hashing involves representing the data in characters, effectively turning it into short "fingerprints" that cannot be reversed easily by a third party without the original data, which helps protect the privacy and security of the original

data.[3] Facebook will then seek to match those hashed identifiers to information users have provided to Facebook (e.g. an email identifier) and otherwise discard unmatched data. Facebook will then reveal to the advertiser the number of matches generated via that process and add those matches to the Custom Audience. For the avoidance of doubt, Facebook does not identify to the advertiser the specific users who have been matched as a result of that process.[4] As part of its advertising campaign, the advertiser can choose a "Custom Audience" that: (i) targets customers that have been matched or (ii) excludes its customers that have been matched where the advertiser has decided to run an ad campaign that is directed at new customers.

2. **Website, mobile app and offline conversion data**: An advertiser can choose to integrate a small piece of Facebook code (i.e. Facebook's pixel, cookie, or SDK) into its website or mobile app, respectively. This code enables Facebook to securely receive information about the actions of the advertiser's customers on the advertiser's website or app, enabling the advertiser to create Custom Audiences of those visitors. For example, for a Custom Audience derived from an advertiser's website (using Facebook code as described above), the advertiser may create an audience of users who visited its website within the last 30 days, added products to their shopping carts, or made online purchases, and then advertise to that group of users using Facebook's advertising products. For a Custom Audience derived from the advertiser's mobile app (using the Facebook SDK), the advertiser may create an audience of users who installed the app or took a particular action within the app, such as completing a game level or making an in-app purchase.[5]

3. **User engagement data**: Facebook receives data concerning user activity across other on-Facebook assets, such as the advertisers' Pages, videos and individual posts. This enables an advertiser to, for example, target ads to everyone who has liked their Facebook Page. In contrast to the two options above, which are created based on a user's actions on the advertiser's website or mobile app, an Engagement Custom Audience is created based on a user's actions on Facebook.

b. **Lookalike Audiences**: Facebook launched "Lookalike Audiences" in 2013 to allow advertisers to run ad campaigns that are directed at Facebook users with characteristics similar to: (i) their existing customers; or (ii) users who have liked an advertiser's Facebook Page. Advertisers can select a Custom Audience as their seed audience and ask Facebook to find a broader set of users that match the behavioral characteristics of the seed audience. Facebook will then run an analysis based on the attributes of the seed audience and, using the user data available to it, create a "Lookalike Audience" comprising Facebook users whose attributes are most highly correlated with those of the seed audience.

Delivery of advertisements can also be narrowed to certain audiences according to core demographics such as location, age, gender, and language.[6] After selecting these core

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[3] Facebook uses the SHA256 hashing algorithm as its standard for hashing.

[4] Facebook deletes all matched and unmatched hashed information immediately after the matching process ends – Facebook does not retain personally identifiable information that the advertisers upload on its servers. See further https://www.facebook.com/business/help/112061095610075.

[5] Users who utilize Facebook's OFA ("Off Facebook Activity") feature to disconnect their off-Facebook activity from their accounts, will not be included in an advertiser's Custom Audience derived in the manner described in this paragraph. For more information about Facebook's OFA feature, see https://newsroom.fb.com/news/2019/08/off-facebook-activity/.

[6] However, Facebook does not allow customization of audiences for discriminatory purposes. For example, housing, employment, or credit ads may not be targeted by age, gender or zip code.

FACEBOOK, INC.

Response to the August 27, 2019 Civil Investigative Demand Issued by the United States Federal Trade Commission

January 17, 2020

Responses to Specifications 1(a) and 3(a).

HIGHLY CONFIDENTIAL BUSINESS INFORMATION ENCLOSED

These data are provided in Exhibits 3(a)-02, 3(a)-03, 3(a)-04, and 3(a)-05 produced herewith.

3(a)(ii)(6)

Facebook does not track the number of item views on the Facebook app, Instagram, Messenger, or WhatsApp in the ordinary course of business.

3(a)(ii)(7)

Facebook has provided data from the relevant time period regarding the following engagement metrics, on a weekly, monthly, and annual basis, to the extent such data are available:

- Facebook app: reshares, likes, and comments in the Facebook app[4];
- Instagram: likes of and comments on content in the Instagram feed; and
- Messenger and Facebook app messaging functionality: like stickers and message reactions sent.

These data are provided in Exhibits 3(a)-02, 3(a)-03, and 3(a)-04 produced herewith.

3(a)(ii)(8)

Facebook has provided data from the relevant time period regarding Facebook friends per monthly active Facebook user and number of followers and followings per monthly active Instagram user, to the extent such data are available. These data are provided in Exhibits 3(a)-02 and 3(a)-03 produced herewith.

3(a)(ii)(9)

As described in Facebook's response to Specification 18, Facebook generally relies on five metrics in measuring user engagement and/or growth: (1) Monthly Active Users or People ("MAU" or "MAP"); (2) Daily Active Users or People ("DAU" or "DAP"); (3) time spent using a product or service per DAU; (4) the DAU to MAU ratio; and (5) Average Revenue Per User ("ARPU"). Facebook provided data with respect to (1), (2), and (5), to the extent available, in its response to Specification 18 in Exhibit 18-01 and refers the staff to that response. Facebook provides herewith in Exhibit 3(a)-01 data with respect to (3) in response to Specification 3(a)(ii)(4). Facebook provides data with respect to (4) in Exhibit 3(a)-01 produced herewith.

RESPONSE TO SPECIFICATION 3(a)(iii)

As noted in response to Specification 2(a), Facebook's core services are available to and intended for use by a broad range of people, without limitation, provided that those people comply with Facebook's user policies.

RESPONSE TO SPECIFICATION 3(a)(iv)

As described in Facebook's response to Specification 3(c), the social graph is a representation of the information on Facebook. The social graph consists of (i) individual objects, such as a user, a

[4] For the Facebook app, Facebook's ordinary-course data on likes, comments, and reshares posted at a country-specific level do not include data on likes and comments posted by business pages. Accordingly, the U.S.-specific figures on these metrics do not include that data.

photo, a page, or a comment (known as “nodes”); (ii) connections between a collection of objects and a single object, such as Photos on a Page or Comments on a Photo (known as “edges”); and (iii) data about an object, such as a user’s birthday or a page’s name (known as “fields”).

FACEBOOK, INC.

Response to the August 27, 2019 Civil Investigative Demand Issued by the United States Federal Trade Commission

July 1, 2020

Supplemental Response to Specification 3(a)(iv).

HIGHLY CONFIDENTIAL BUSINESS INFORMATION ENCLOSED

SPECIFICATION 3(a)(iv)

For each Social Media Service created, being developed, distributed, sold, or provided by the Company, provide the following, stated separately by application or website and by type of device (e.g., personal computer, iOS device, Android device):

a) a detailed description of the product or service in each Relevant Area, including:

iv) a detailed description of its social graph.

SUPPLEMENTAL RESPONSE TO SPECIFICATION 3(a)(iv)

A social graph, including Facebook's, is a representation of the interconnection of relationships in an online social network. As described in Facebook's previous response to this specification, the social graph consists of an array of nodes connected by edges. Both nodes and edges may have various metadata associated with them. The Associations and Objects ("TAO") database, sometimes referred to as a "production" database, implements the graph abstraction of objects and associations that constitute the social graph. Objects and associations associated with each application in the Facebook family, including Facebook, Instagram, and WhatsApp, are stored in TAO and related databases. The following description of how the social graph works applies to the Facebook app, Instagram, Messenger, and WhatsApp. A simple illustration of a social graph is below at **Figure 1**.

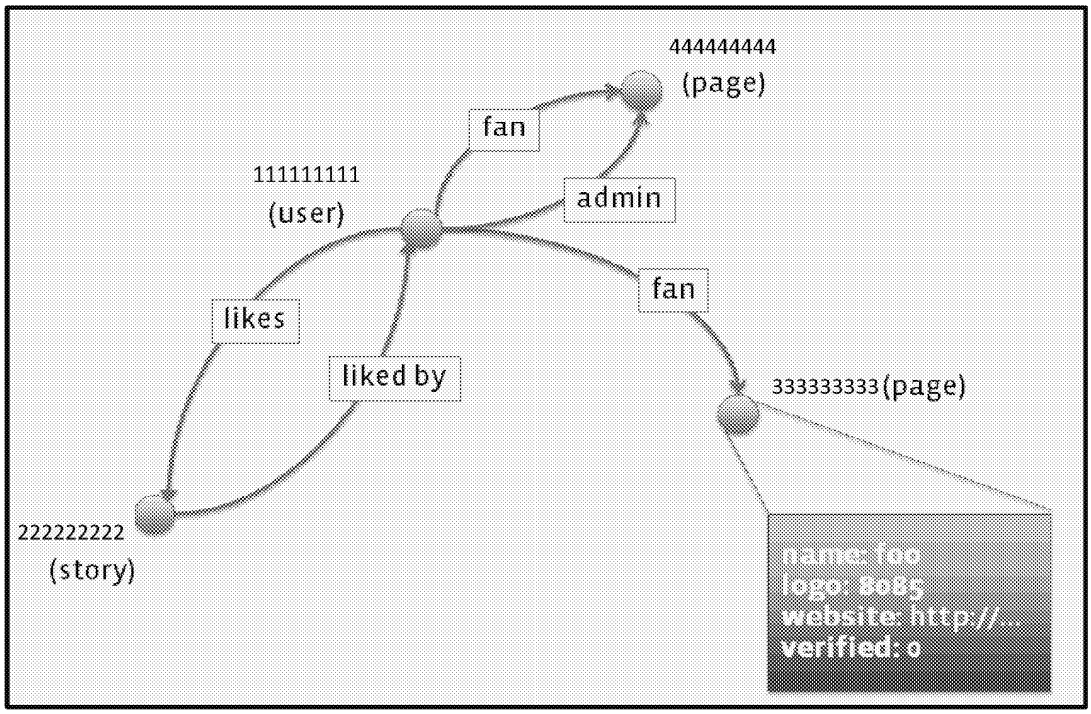

Figure 1. Sample illustration of a social graph. Circles represent FBObjects (nodes) connected by directional Associations (edges). Each FBObject is identified with a numerical FBid. The information in the purple box at bottom right illustrates the types of metadata fields that might be associated with a particular FBObject.

Facebook refers to the **nodes** of the social graph as "objects" (or "FBObjects"). An FBObject is a data storage module containing a collection of key-value pairs. Each FBObject is assigned a unique 64-bit numerical identifier, called an "FBid." A list of keys defines what can be stored in a particular object. This has the effect of categorizing FBObjects by

indexing by integer keys called "FBTypes." which define what kind of data is represented. For example, FBObject Type 2048 defines the "user" object. Other FBTypes include the comment, photo, and page objects. At present, there are at least 35,000 FBObject types. Each object has associated metadata fields, such as a User's birthday or a Page's name.

Facebook refers to the **edges** of the social graph as "associations." Associations are directed edges between two FBids in the social graph. Association, assoc, and edge are equivalent terms.

An association is a unique, typed edge connecting two FBObjects. It is commonly represented as the tuple (id1, id2, assoc_type), where the edge originates at the FBObject with FBid id1 and ends at the FBObject with FBid id2, and assoc_type is the type of the association (likes, for example). Associations can be one-way, two-way, symmetrical, or asymmetrical. One example of a symmetrical association is "is friends with." If Joan "is friends with" John, then John "is friends with" Joan. One example of an asymmetrical association is "likes." "John likes Porsche" does not entail "Porsche likes John." In these asymmetrical cases, an inverse association is also required. Here, the appropriate inverse association for "likes" is "is liked by": John likes Porsche, and Porsche is liked by John. Like FBObjects, most associations are defined by type schemes which specify the relationship represented by the edge. There are more than 46,000 Association types.

To illustrate how this works in practice, consider the interactions in **Figure 2**. The simple example in Figure 2 shows a subgraph of objects and associations that is created in TAO after Alice checks in at the Golden Gate Bridge and tags Bob there, while Cathy comments on the check-in and David likes it.

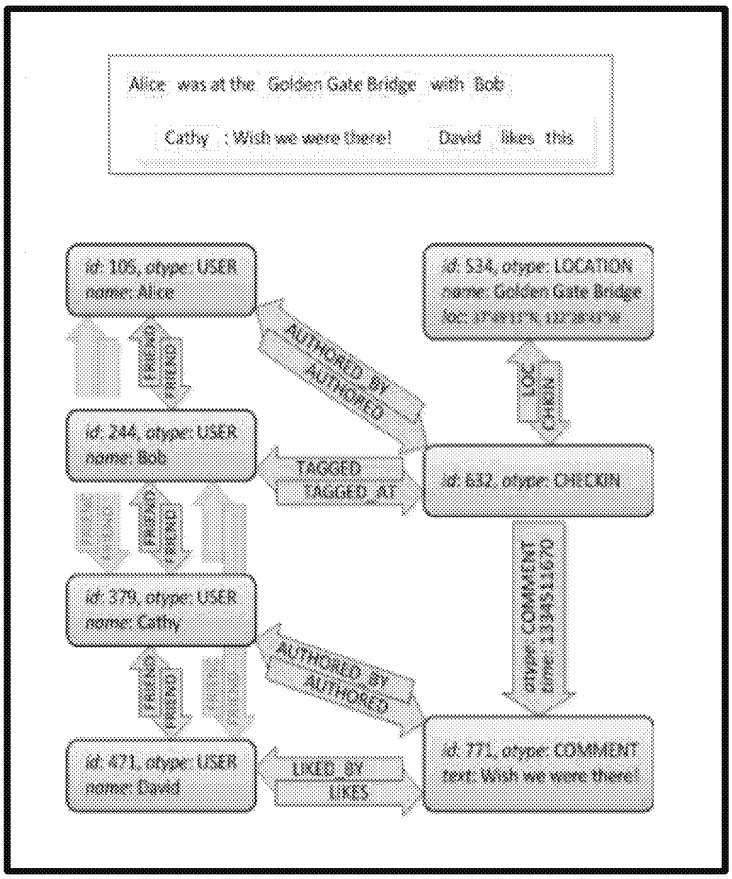

Figure 2. Illustrative subgraph of a particular hypothetical series of interactions on Facebook.

Every data item, such as a user, check-in, or comment is represented by a typed object containing a dictionary of names fields. Relationships between objects, such as "liked by" or "friend of," are represented by typed edges (i.e., associations) grouped in associate lists by their origin. Multiple associations may connect the same pair of objects as long as the types of all those associations are distinct. Together the object and associations form a labeled, directed social graph.

A typical Facebook page may aggregate hundreds of items from the social graph. As of 2013, TAO processed 100 trillion queries and 180 billion writes per day against a data set of many petabytes. During peak hours in that period, TAO processed more than 1.4 billion reads a second and 2.5 million writes a second. These figures illustrate the dynamic and ever-changing nature of the social graph, as everything users post on Facebook becomes part of it. The number of users of Facebook's services has grown since 2013.